

Applicants: Long Sheng Yu, et al.  
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to attach the adapter sleeve to said sewing ring, for attachment to the ventricular apex of a heart, and the adapter sleeve is formed of a smooth cylinder of titanium, said adapter sleeve carrying an adjustable attachment member to permit said adapter sleeve to extend or retract from an end of said inflow tube.

13. (Original) The ventricular assist device of claim 12 wherein the inflow tube includes an inner sleeve that is rotatably and slidably mounted therein.

#### **REMARKS**

Claims 1-13 are pending in the subject application. Applicants have amended claims 1 and 12. Support for these amendments may be found in the specification, inter alia at page 9, lines 9-10.

No issue of new matter is raised by these amendments. Accordingly, upon entry of this Amendment, claims 1-13, as amended, will be pending in the subject application.

In view of the preceding claim amendments and the remarks which follow, applicants maintain that the grounds of rejection set forth in the April 16, 2008 Office Action have been overcome, and respectfully request that the Examiner reconsider and withdraw these grounds of rejection.

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**Rejection under 35 U.S.C. §112**

The Examiner rejected claims 1-11 under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. The Examiner alleged that the claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Specifically, the Examiner alleged that:

- claim 1 recites the limitation of "an adjustable attachment member to permit attachment... a range of longitudinal position" and that there is not support in the specification for a range of longitudinal positions for an attachment member.

In response, without conceding the correctness of the Examiner's position, applicants have amended claims 1 and 12 to overcome the 35 U.S.C. §112 rejection and to clearly distinguish applicants' invention over the prior art. Reconsideration and allowance of the claims, as amended, is respectfully requested.

The present invention concerns a novel ventricular assist device for a heart. The device includes a pump portion and an inflow tube protruding from the pump portion. An adapter sleeve of a first predetermined length is attached to the inflow tube. This forms an extended inflow tube having a total length that is

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greater than the first predetermined length. The adapter sleeve carries an adjustable attachment member. This permits the adapter sleeve to extend or retract from an end of the inflow tube.

In the rejection under 35 U.S.C. § 112, first paragraph, the Examiner states that there is no support in the specification for a range of longitudinal positions for an attachment member. Applicants believe that this is sufficiently disclosed on page 9 of the application in which it is stated that "the attachment means may include an adjustable member to cause the sleeve 160 to extend or retract from the end of the inflow tube 146." This is further illustrated in Figs. 6 and 7, where an adapter sleeve 160 or 246 is shown to be carried on a inner tube 146 or 255, and to be adjustable to provide a variable length of the overall arrangement. In any event, the claims have been amended to use the language set forth on page 9 of the specification, wherein they now state that "said adapter sleeve carrying an adjustable attachment member to permit said adapter sleeve to extend or retract from an end of said inflow tube."

In view of these amendments to claims 1 and 12, applicants maintain that the claims are no longer subject to rejection under 35 U.S.C. § 112, first paragraph, and respectfully request that the Examiner reconsider and withdraw this ground of rejection.

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**Rejections under 35 U.S.C. §102**

A. The Examiner rejected claims 12-13 under 35 U.S.C. § 102(e) as allegedly being anticipated by Mussivand et al. (U.S. Patent No. 6,290,639).

In response, Applicants note that the Examiner recognizes that Mussivand et al. does not disclose anything resembling an adapter sleeve carrying an adjustable attachment member to permit the adapter sleeve to extend or retract from an end of the inflow tube. In sharp contrast, the connection of Mussivand's components is clearly a fixed, one positioned connection. Mussivand does not disclose or suggest the advantages of the present invention in which the length of the adapter sleeve and inflow tube can be adjusted, which is a great advantage for proper implantation in the heart. As shown in Fig. 7 of the present application, the two components may be secured together by a locking mechanism 256 such as a screw, to provide a reliable, adjustable system for blood flow connection with the heart.

B. The Examiner also rejected claims 1-3 and 7-11 under 35 U.S.C. § 102(b) as allegedly being anticipated by Kahn et al. (U.S. Patent No. 3,766,567).

The Examiner considers grafting tubing 87 of Kahn et al. to be the adjustable attachment member. However, grafting tubing 87 is not adjustable and, in fact, is said to be made of "non-collapsing" materials (column 6, line 38). The Kahn et al.

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assembly is precisely what the present invention is intended to improve upon in that the Kahn et al. assembly is not adjustable and does not have an adjustable attachment member to permit the adapter sleeve to extend or retract from an end of the inflow tube. Instead, if element 86 of Kahn et al. is considered to be the adapter sleeve, element 88 of Kahn et al. is considered to be the inflow tube, and element 87 of Kahn et al. is considered to be the attachment member, it is clear that Kahn et al. does not teach anything relating to adjustability as required by applicants' claims.

Claim 9 of the subject application, which is dependent upon claim 1, points out that the inflow tube includes an extendable end. Claim 10, which is dependent upon claim 1, points out that the inflow tube includes a rotatable end.

The Examiner asserted that in Kahn et al., the end of inflow tube 88 that connects to connector 90 is extendable, as seen in figures 6 and 7. Applicants contend that connectors described in Kahn et al. in col. 6, lines 29-32 and seen in figures 6 and 7 do not describe either an extendable or rotatable end. Applicants further contend that there is nothing in Kahn et al. that even resembles subject matter regarding an extendable end or a rotatable end.

Claim 11 of the subject application, which is dependent upon claim 1, points out that the inflow tube includes an inner sleeve that is rotatably and slidably mounted therein.

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The Examiner asserted that in Kahn et al., figure 6 discloses a valve 21 which the examiner considers to be an inner sleeve. Applicants contend that valve 21 described in Kahn et al. do not describe an inner sleeve that is rotatably and slidably mounted. Again, applicants contend that Kahn et al. does not disclose or even suggest this structure.

In view of the foregoing amendments and remarks, it is submitted that the application is now in condition for allowance and an early notice of allowance is respectfully requested.

**Rejection under 35 U.S.C. §103**

A. On page 5 of the April 16, 2008 Final Office Action, the Examiner rejected claims 4, 6 and 12-13 as obvious under 35 U.S.C. § 103(a) over Kahn et al. (U.S. Patent No. 3,766,567).

As an initial matter applicants direct the Examiner to their comments above concerning the differences between their invention as recited in the claims, as amended above, and the disclosure of Kahn et al. Applicants maintain that in view of these differences it would not have been obvious to make applicants' claimed invention. In this regard, applicants note that claims 4 and 6 depend from claim 1 which has been amended to more clearly recite the differences from the cited art including Kahn et al. Further claim 12 and claim 13 which depends therefrom has been amended in a manner similar to claim 1.

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In view of the preceding remarks, applicants request that the Examiner reconsider and withdraw the rejection of claims 4, 6 and 12-13 as obvious over Kahn et al.

B. The Examiner also rejected claim 5 under 35 U.S.C. § 103(a) as allegedly unpatentable over Kahn, et al. (U.S. Patent No. 3,766,567).

Claim 5, which is dependent upon claim 1, specifies that the adapter sleeve includes cylindrical grooves forming perforations on the surface of the sleeve whereby the sleeve may be separated along the grooves. This is disclosed on page 10 of the specification, last paragraph. On page 6 of the Office Action, the Examiner has tried to discard this claimed invention by stating that "it would have been obvious" without any proper basis for such statement. Applicants contend that none of the prior art references disclose or teach perforating an adapter sleeve as claimed to allow customization of the length of the adapter sleeve. This feature cannot be cast aside as "obvious" merely because it has a useful function.

#### **CONCLUSION**

In view of the amendments and remarks made hereinabove, applicants respectfully submit that the grounds of rejection set forth in the April 16, 2008 Office Action have been overcome.

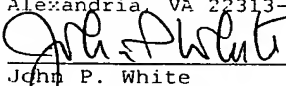
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Accordingly, applicants earnestly solicit allowance of the claims now pending, i.e. claims 1-13, as amended.

If a telephone interview would be of assistance in advancing prosecution of the subject application, applicants' undersigned attorney invites the Examiner to telephone him at the number provided below.

No fee is deemed necessary in connection with the filing of this Amendment. However, if any additional fee is required, authorization is hereby given to charge the amount of any such fee to Deposit Account No. 03-3125.

Respectfully submitted,

I hereby certify that this correspondence is being deposited this date with the U.S. Postal Service with sufficient postage as first class mail in an envelope addressed to:	
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	June 16, 2008
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